

REMARKS

Claims 1 to 26 are pending in the above-identified application when last examined.

§ 103 Rejections

The Examiner rejected claims 1 to 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,260,079 ("White") in view of U.S. Patent No. 4,220,876 ("Ray"). Addressing Applicant's arguments filed on July 9, 2004, the Examiner said,

8. In the remarks, applicants argued in substance that Ray does not teach or suggest that switch that decouples two buses when a voltage falls below a threshold. Specifically, applicants argued that the bus termination circuit 44 taught by Ray only disconnects resistors from the bus, preventing the loading of the bus, but leaving device 10 connected to said bus. But Ray teaches the bus termination circuit renders the device non-conductive and electrically isolates from the bus [Abstract]; although the device is still physically connected, it is electrically isolated and thereby decoupled from the bus, substantially as claimed. Thus, Ray teaches an electrically decoupling switch that opens when a voltage falls below a predetermined threshold, and as would be obvious to one of ordinary skill in the art, may be used to decouple two buses, substantially as claimed.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., physical disconnection of the two buses) are not recited in the rejected claim(s).

10. Clearly, Ray teaches that the bus terminating circuit essentially disconnects or electrically isolates an electric system, such as a second bus, from a first bus in response to such system being turned off so that the bus continues to operate as if that system was not connected thereto [col. 1, lines 60-66], substantially as claimed.

October 19, 2004 Final Office Action, pp. 4 and 5. Applicant respectfully traverses.

Ray does not disclose a bus terminating and decoupling circuit 44 that decouples a bus 50 and an instrument 10. Instead, Ray discloses a circuit 44 that decouples itself from bus 50 when instrument 10 is turned off so that resistors 58 and 60 in circuit 44 do not load bus 50. Circuit 44 is connected to a node 48 between instrument 10 (connected at input terminal 46) and bus 50. "Bus terminating and decoupling circuit 44 includes an input terminal 46 which can be coupled to a line driver and receiver, and to a node 48, which can be coupled to a bus 50." Ray, col. 3, lines 8 to 11; also see Fig. 2.

If instrument 10 is turned off, the voltage on terminal 52 falls to zero volts. As the power supply voltage magnitude becomes less than the predetermined level of about 2.5 volts, for instance, as established by the anode-to-cathode junctions of threshold setting diodes 68, 70 and 72 and the base-to-emitter junction of transistor 64, current no longer flows through the path including resistor 66 and diodes 68, 70 and 72. Consequently, transistor 64 turns off and provides a high impedance at the cathode of diode 62. Since no current is able to flow through diode 62, no current is also able to flow through resistor 60. Thus, resistor 60 appears to be disconnected or is isolated from node 48 in response to transistor 64 being rendered non-conductive. Thus, resistor 60 provides no loading to line 50 when power is removed from terminal 52. Moreover, as the power supply voltage on terminal 52 falls below another predetermined level of about 3.0 volts, for instance, threshold setting diode 56 becomes back-biased and no current can flow therethrough. Consequently, resistor 58 appears to be disconnected or isolated from node 48. Since no current flows through either resistor 58 or 60, then node 48 presents a high impedance to bus 50. Thus, circuit 44 does not load bus 50 when the system or subsystem including circuit 44 is turned off or the supply voltage magnitude falls below a predetermined threshold of 2.5 volts, which is the lower of the two thresholds.

Ray, col. 4, lines 13 to 40 (emphasis added). Thus, circuit 44 only decouples itself from node 48 so resistors 58 and 60 in circuit 44 do not load bus 50. Circuit 44 does not decouple instrument 10 and bus 50, whether electrically or physically.

The Examiner stated that the Abstract and a portion of the Summary of the Invention (col. 1, lines 60 to 66) of Ray disclose that circuit 44 decouples instrument 10 from bus 50. The Abstract states,

The bus terminating circuit isolates itself from a bus in response to the magnitude of a power supply voltage decreasing below a predetermined threshold level. The bus terminating circuit includes a bus termination voltage divider network having one terminal coupled through a threshold sensing device to one of the pair of power supply terminals, another terminal coupled to the bus and a further terminal coupled through a transistor to the other of the pair of power supply terminals. Another threshold sensing circuit is coupled between one of the pair of power supply terminals and the control electrode of the transistor. The threshold sensing circuits are responsive to the magnitude of the power supply voltage falling below the predetermined threshold level to render devices of the threshold sensing circuits non-conductive and thereby electrically isolate the bus termination network from the bus.

Ray, Abstract (emphasis added). Thus, Ray specifically states that bus terminating circuit 44 (also referred to as "the bus termination network") electrically isolates itself from bus 50 by rendering devices in its threshold sensing circuits non-conductive.

The Summary of the Invention, in part, states,

Accordingly, one object of the present invention is to provide a bus terminating and decoupling circuit which essentially disconnects or electrically isolates an electrical system or subsystem from a bus in response to such system or subsystem being turned off so that the bus continues to operate as if that system or subsystem was not connected thereto.


Ray, col. 1, lines 60 to 66 (emphasis added). When interpreted with the entire patent (specifically, Fig. 2, the Abstract, and col. 4, lines 13 to 40), the "electrical system or subsystem" described in the Summary must necessarily be resistors 58 and 60 in bus terminating and decoupling circuit 44. This is because circuit 44, as described above, does not decouple instrument 10 from bus 50 either physically or electrically. If the Examiner disagrees, Applicant respectfully requests the Examiner to explain technically how circuit 44 decouples instrument 10 from bus 50 and support this by citing language in the Detailed Description.

Applicant has not amended claim 1 to distinguish between a switch that physically or electrically isolates two buses as Applicant believes that Ray does not disclose either.

Claims 2 to 13 depend from claim 1 and are patentable over the cited references for at least the same reasons as claim 1.

Independent claim 14 recites similar limitations as claim 1, and therefore is patentable over the cited references for at least the same reasons as claim 1. Claims 15 to 26 depend from claim 14 and are patentable over the cited references for at least the same reasons as claim 14.

In summary, claims 1 to 26 were pending in the above-identified application when last examined. For the above reasons, Applicant respectfully requests the Examiner with withdraw the claim rejections and allow claims 1 to 26. Should the Examiner have any questions, please call the undersigned at (408) 382-0480x206.

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Respectfully submitted,



David C. Hsia
Attorney for Applicant(s)
Reg. No. 46,235